News Headline: BP aids state's school content | ₩ 🖂

Outlet Full Name: Sacramento Bee - Online, The

News OCR Text: BP, the energy giant responsible for the largest offshore oil spill in history, helped develop the state's framework for teaching more than 6 million students about the environment.

Despite a mixed environmental record even before the Gulf of Mexico disaster, state officials included BP on the technical team for its soon-to-be-completed environmental education curriculum, which will be used in kindergarten through 12th-grade classes in more than 1,000 school districts statewide.

Environmental watchdogs and some experts who worked on the project said BP's involvement is troubling given its handling of the Deepwater Horizon tragedy, which killed 11 workers and dumped more than 200 million gallons of oil into the Gulf of Mexico.

"I'd hate to see how a section in future textbooks mentioning the BP oil spill will look," said Lisa Graves, executive director for the Wisconsin-based Center for Media and Democracy, a critic of so-called "greenwashing" techniques by corporations to make their products appear eco-friendly.

"I think it's very worrisome because their fundamental goal is to profit from energy and not to teach children," Graves said.

Officials with the California Environmental Protection Agency, which oversees the curriculum project, said BP had a minor role in its early planning stages and was just one of dozens of stakeholders from a diverse range of interests.

Andrea Lewis, Cal EPA's assistant secretary for education and quality programs, said the bulk of work on the curriculum was done by specialists whose content was peerreviewed by outside experts.

BP declined comment on its involvement.

Dubbed the Education and the Environment Initiative, the state's curriculum project was launched by the Legislature in 2003 as the first effort by any state to develop a statewide curriculum for environmental education.

The seven-year project has produced more than 13,000 pages of teaching material about the environment for K-12 science, social studies and history courses.

The material, which was assembled by about 45 writers and 15 editors, has been approved by California's Board of Education and the state curriculum commission and is being used on a pilot basis in 19 school districts.

Cal EPA officials said they hope to have the materials available to all California schools by November or December if they can obtain necessary funding for the project.

The state has spent about \$10 million so far and has launched a fundraising campaign to raise an additional \$22 million over the next four years to pay for printing and other costs.

The technical working group on which BP sat was responsible for developing the program's guiding principles, said Sharon Fuller, an environmentalist who was a member of the technical team.

The 2003 law initially established 14 key areas for the curriculum project to focus on. They included subjects such as pollution prevention, toxic and hazardous waste management, and recycling.

The technical working group added about a dozen more subjects, including lessons on wetlands and coastal ecosystems, water pollution, soil contamination and energy conservation.

In 2004, the group met monthly, Fuller said. Members included state agencies, universities and environmental groups such as the Nature Conservancy, the California Air Resources Board, and the UC Berkeley College of Natural Resources.

Also at the table were for-profit corporations and trade organizations such as PG&E Corp., Sempra Energy and the American Plastics Council. BP was the only oil company in the group.

Fuller, who founded the Richmond-based Ma'at Youth Academy, which educates children about the environment in the Bay Area, questioned why the firm was included, given its environmental record.

Even before the gulf spill, BP had been subject to a number of federal criminal investigations and paid substantial fines for environmental abuses.

But Gerald Lieberman, a curriculum expert who served as the state's consultant, said it was important to get all sides of the environmental debate involved in developing the classroom materials. The result, he said, is balanced.

"This is one of the best standards-based curriculums in the nation," Lieberman said.

Monica Ward, a history teacher in Riverside and a member of the state curriculum commission, said she found the material very helpful for her 10th-grade students.

She said her students got a good understanding of the environmental fallout from Europe's industrial revolution and other eras, and that the material connected those topics to what's happening in the world today.

"My kids loved it," Ward said.

BP is the world's sixth-largest oil producer, according to Forbes magazine. The company, which recently switched its corporate slogan to "Beyond Petroleum," owns the Arco gasoline brand and a 260,000 barrel-per-day refinery in Carson.

In recent years, the company has spent heavily on green education initiatives in California. BP has handed out more than \$8 million in teacher grants and scholarships for energy education and conservation since 2004. And in 2007, the company pledged \$500 million over 10 years to develop the Energy Biosciences Institute at UC Berkeley. That investment attracted protests on the Berkeley campus by consumer groups and academics.

BP's investment in the Berkeley program is mentioned favorably in material for 12th-grade science students.

A booklet dubbed "The Life and Times of Carbon" includes a reprinted article by two biological sciences professors from UC San Diego hailing the BP-Berkeley deal as "a major research project" and one of several "new technological developments on the horizon."

AT A GLANCE

The Education and the Environment Initiative, launched in 2003, is the first effort by any state to develop a statewide curriculum for environmental education.

WHO WILL USE IT?

Kindergarten through 12th-grade classes in more than 1,000 school districts statewide.

WHAT IS IT?

More than 13,000 pages of teaching material about the environment for science, social studies and history courses.

Call The Bee's Rick Daysog, (916) 321-1207.

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News Headline: Editorial: Unsolved Coal Ash Problem | U 🖂

Outlet Full Name: New York Times - Online

News OCR Text: In December 2008, a gigantic storage pond belonging to the Tennessee Valley Authority near Kingston, Tenn., effectively burst at the seams, spilling a billion gallons of mainly toxic coal ash from a T.V.A. power plant into surrounding lands and rivers.

It was the perfect moment to right a long-festering environmental wrong. The Environmental Protection Agency promised tough new regulations governing the disposal of coal ash. Industry complained. The White House hesitated. Nothing happened.

The administration can redeem itself in the weeks ahead. Last Monday, the E.P.A. held the first in a series of regional hearings on two quite different proposals governing how coal-fired power plants dispose of waste.

One proposal, favored by public-interest groups and by agency scientists, would replace a patchwork of uneven and in many cases weak state regulations with new national standards. It would formally designate coal ash as a hazardous waste under federal law, require industry to phase out porous sludge ponds, replace them with sturdy, leak-proof facilities, and take other protective steps.

The competing proposal would establish federal guidelines for disposal but leave enforcement to the states. It would also preserve coal ashs status as a nonhazardous substance. Though the proposal barely improves on the status quo, the Office of Management and Budget after heavy lobbying by the coal industry agreed to give it equal billing in the public hearings.

The tougher proposal is obviously better. Coal ash, the byproduct of coal combustion, is a huge problem. Its toxins which can include arsenic, lead and other heavy metals can poison local water supplies. Americas power plants produce 130 million tons of the stuff every year, enough to fill a train of boxcars stretching from the District of Columbia to Australia.

Some of this is usefully, safely and profitably recycled to make concrete and other construction materials. Designating coal ash as hazardous would not diminish these uses, despite industry claims. What new rules would do is greatly reduce the dangers from the 60 percent or so of the coal ash that now winds up in lightly regulated landfills.

Just in time for the start of the hearings, three public-interest groups Earthjustice, the Sierra Club and the Environmental Integrity Project identified 39 coal ash disposal sites in 21 states where leaking waste has raised water pollution levels beyond those permitted by federal laws. These sites can now be added to the E.P.A.s own list of 67 dangerous sites.

By any measure, coal ash is a national problem demanding a national response.

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News Headline: A done deal: EPA fracking forum coming to Binghamton | U 🔀

Outlet Full Name: Ithaca Journal - Online News OCR Text: BINGHAMTON -- Finally.

Broome Countyand City of Binghamton officials announced Tuesday an agreement to bring the U.S. Environmental Protection Agency's final public meeting on its multi-million-dollar hydraulic fracturing study to The Forum on Sept. 13 and 15.

The forums are scheduled for noon to 4 p.m. and 6 p.m. to 10 p.m. on each day.

The announcement brought weeks of uncertainty surrounding the meeting to a close. Originally slated for Aug. 12 at Binghamton University, a contract dispute led the EPA to move the event to theOncenter Complexin Syracuse just three days before it was set to take place. The next day, the meeting was postponed after Onondaga County officials expressed concern about coming up with a security plan on short notice.

The reason thefrackingforum will not be on consecutive days is because September 14 is primary day in New York and organizers wanted to avoid the potential conflict.

Broome County officials had been negotiating to bring the meeting back to the Binghamton area since the postponement. A representative from Plexus Logistics International, a firm hired by EPA contractor The Cadmus Group, was in town early last week to tour venues and meet with county and city officials, but an agreement hadn't been finalized until Tuesday

Both Broome and Binghamton had to come to terms with Cadmus. The group will pay the county about \$22,000 in rental, service and security costs inside The Forum, while the City of Binghamton will be paid up to \$12,398 for security outside of the venue.

The county would be paid an additional \$5,200 if Sheriff deputies are called to the site.

EPA ultimately will reimburse Cadmus as part of their work agreement.

Cadmus agreed to pay the city \$12,398 for 10 police officers, two supervisors, and auxiliary officers over the course of the meeting. The group also must take out a \$2 million general liability insurance policy, and would pay up to \$3,500 if specialized police forces, such as a SWAT team, were called in.

The agreement provides for two, 14-hour days of police services, and Cadmus will be refunded \$438 an hour if less time is required.

The meeting now will feature an extra day. Instead of three, four-hour sessions as originally planned, there will be four sessions split between the days. An additional 100 two-minute speaking slots will be opened up to the public, and the 300 speakers who signed up for the Aug. 12 minute will hang on to their reservations.

About 1,200 people have preregistered to attend, but a healthy walkup crowd is expected. BU and Onondaga County officials had been approached by groups wishing to stage rallies outside of the meeting, adding to their security concerns. BU had estimated 8,000 people could show up for the event, though it declined to say how it came up with the figure.

EPA has held similar meetings in Pennsylvania, Texas and Colorado on its study of the potential connection between groundwater and hydrofracking, a controversial drilling technique in which a mix of water, sand and chemicals is blasted deep underground to break up rock and free natural gas. Drilling supporters say the technology is safe, proven and effective, while environmentalists worry it could have negative effects on the water supply.

The practice is on hold in New York as the state Department of Environmental Conservation reviews its fracking policies.

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News Headline: In Feast of Data on BPA Plastic, No Final Answer | 🖖 🖂

Outlet Full Name: New York Times - Online

News OCR Text: Concerns about BPA stem from studies in lab animals and cell cultures showing it can mimic the hormone estrogen. It is considered an "endocrine disruptor," a term applied to chemicals that can act like hormones. But whether it does any harm in people is unclear.

Where science has left a void, politics and marketing have rushed in. A fierce debate has resulted, with one side dismissing the whole idea of endocrine disruptors as junk science and the other regarding BPA as part of a chemical stew that threatens public health.

About half a dozen states have banned BPA in children's products, and Senator Dianne Feinstein hopes to accomplish the same nationwide, with an amendment to the food safety bill scheduled for a vote in the Senate next week.

This year, apresidential panel on cancer and the environment said there was a "growing link" between BPA and several diseases, including cancer, and recommended ways to avoid BPA, like storing water in bottles free of it and not microwaving food in plastic containers. Some cancer experts said the report overstated the case against chemicals, but the concerns it raised seemed to reflect growing public worries.

Consumer fears have made the words "BPA-free" a marketing tool. Wal-Mart, Whole Foods, Sears, CVS and other retailers have said they will stop selling baby bottles made with BPA, and major formula and baby-bottle manufacturers have also scrapped it. Worried people have purged their homes of plastics labeled 7. (Products are numbered for recycling; those with BPA carry a 7, but not everything with a 7 contains BPA). Nalgene, which makes popular water bottles, quit using BPA when customers began complaining about it. Sunoco, one of the companies that makes BPA, said it would sell the chemical only to buyers who guaranteed that they would not use it in food or drink containers meant for children.

In May, a White House task force on childhood obesity issued a report suggesting that BPA and certain other chemicals might be acting as "obesogens" in children — promoters of obesity — by increasing fat cells in the body and altering metabolism and feelings of hunger and fullness.

Perhaps not surprisingly, the issue of whether BPA is safe has become highly partisan.

Environmental groups and many Democrats want BPA banned, blaming it for an array of ills that includes cancer, obesity, infertility and behavior problems. Environmentalists think the United States should adopt the "precautionary principle," a better-safe-than-sorry approach favored in the European Union. The principle says, in essence, that if there are plausible health concerns about a chemical, even if they are not proved, people should not be exposed to it until studies show it is safe. The United States takes the opposite approach: chemicals are not banned unless there is proof of harm.

Many Republicans, anti-regulation activists and the food-packaging and chemical industries insist that BPA is harmless and all but indispensable to keeping canned food safe by sealing the cans and preventing corrosion, and to producing many other products at reasonable prices. They argue that the chemical has been demonized, and that adopting the precautionary principle would lead to needless and ruinously expensive bans on safe and useful products. Both sides are closely watching the issue unfold, because BPA is widely seen as a test case in an era of mounting worry about household chemicals, pollution and the possible links between illness and environmental exposures, especially in fetuses and young children.

"This isn't the only endocrine-disrupting chemical on the block," said Patricia Hunt, a biologist at Washington State University, in Pullman. "It's just the one that's captured the attention, because researchers like me have gotten into the field and gone, 'Holy cats! We're all exposed to this.' There's been a heavy industry response, and we've gathered our forces together a little more strongly to shine a light on it. This is the poster child for this group of chemicals. Academic scientists are saying we need to do something, and we need to do it fast."

Linda S. Birnbaum, director of the National Institute of Environmental Health Sciences (part of the National Institutes of Health), said that a new round of government-financed studies with uniform methods, now under way with animal subjects, should help to resolve unanswered questions. In the meantime, Mrs. Feinstein's ambitious plan to ban BPA from baby bottles, sippy cups, baby food and formula was blocked by partisan battling. She had hoped that the ban would be included in the food safety bill, not merely in an amendment to be considered separately.

But after months of wrangling, she gave up. The food industry, mostly supportive of the food bill, threatened to oppose it if the BPA provision got in. So did many Republican senators. In August, Mrs. Feinstein's Democratic colleague Representative John D. Dingell of Michigan made public a letter in which he urged her to back off on BPA for the sake of the bill, which will broaden the authority of the Food and Drug Administration over the food supply — a measure widely seen as essential to reducing food-borne illnesses like the recent salmonella outbreak from eggs.

In a statement released in August, Mrs. Feinstein said, "The Food Safety Bill was the logical place for this legislation, and I have been working hard to reach a compromise, but unfortunately BPA language is not included."

As an amendment instead of being part of the bill itself, the ban is far less likely to pass the Senate and become law. Last week, the legislature in Mrs. Feinstein's state, California, rejected a BPA ban like the one she is proposing.

Buried in an Avalanche of Data

The mountains of data produced so far show conflicting results as to whether BPA is dangerous, in part because different laboratories have studied the chemical in different ways. Animal strains, doses, methods of exposure and the results being measured — as crude as body weight or as delicate as gene expression in the brain — have all varied, making it difficult or impossible to reconcile the findings. In science, no experiment is taken seriously unless other researchers can reproduce it, and difficulties in matching BPA studies have led to fireworks.

John A. Katzenellenbogen, a chemistry professor at the University of Illinois in Urbana, and an expert on how hormones works in cells, does not work with BPA but said he had seen researchers who study it argue bitterly at conferences, over supposedly identical experiments that had somehow yielded opposite results.

At one such meeting, scientists in the audience said, "We don't want to hear you two speak until you get this straightened out," he recalled.

"I'm interested, and despite the fact that I know a lot about this, somewhat bewildered at the discordances in reports,"

Dr. Katzenellenbogen said.

Dr. Birnbaum said, "I think we need to lower the tenor of the discourse and look at what the research really is," and added that researchers who clash over conflicting results may actually have done different experiments.

The new, government-financed studies will try to determine whether BPA can play a role in obesity, diabetes, breast and prostate cancer and disorders of the developing immune, cardiovascular and nervous systems. Dr. Birnbaum said researchers would be looking for effects on learning and behavior, and also trying to find out whether there are "multigenerational" effects, meaning that exposure in a pregnant animal can affect her offspring and the next generations as well.

How could one substance possibly have so many different effects?

"What's estrogen associated with?" Dr. Birnbaum asked. "Breast cancer, uterine cancer, obesity, behavior, the immune system. If BPA can have some estrogeniclike properties, it is scientifically plausible that it might have a wide spectrum of effects. We need to move beyond the idea that an environmental chemical or a drug is only going to do one thing, and need to understand that what happens to an infant may be different from what happens to an adult."

The results from the new round of studies are not expected for at least two years. "We are in some ways using BPA as a model for an endocrine-disrupting compound," she said. "What can happen when you perturb fundamental homeostatic processes in the body?"

Impersonating Hormones?

The idea that drugs or chemicals could act like hormones emerged in the 1990s. Such effects can be subtle and delayed. Hormones act on receptors in cells, structures to which they attach — the standard comparison is lock and key — and orchestrate growth, differentiation and all sorts of biochemical activities. Many cells have receptors for estrogen, and BPA can bind to those receptors, though far less strongly than the body's own estrogen can.

R. Thomas Zoeller, a biology professor at the University of Massachusetts, Amherst, said BPA could also bind to receptors for male hormone and thyroid hormone.

"I don't know of a single other molecule that does this," Dr. Zoeller said.

In people, the most notorious example of an endocrine disruptor is the drug diethylstilbestrol, or DES, which was given to pregnant women in the 1950s in the mistaken belief that it could prevent miscarriage. The drug turned out to be a disaster, causing vaginal cancers and reproductive problems in some of the women's daughters, and abnormalities in the reproductive organs in some sons. But DES is a far stronger estrogen mimic than is BPA, and women were exposed to much higher levels of it.

Animal studies during the past decade or so began raising concerns about BPA, which is used to harden polycarbonate, a clear plastic that makes nice-looking food containers, bottles and sippy cups. It has been widely used since the 1960s and is also in some medical devices, dental sealants, thermal paper for cash register receipts and the epoxy resin that lines most food and drink cans. The United States produces about a million tons of it a year.

BPA is in people, too. Small amounts leach out of plastics and seep into the body. In 2008, a government study of 2,517 people age 6 and older found that 93 percent had BPA in their urine. Children had higher levels than adults, and other studies have detected the chemical in umbilical cord blood in newborns.

Studies show that in adults, BPA is eliminated from the body in hours; children take longer to get rid of it. But scientists say that finding it consistently in so many people suggests that the public is being exposed continuously. The main route by which people are taking it in is not known.

Just finding a chemical in people does not mean it is doing any damage, and there is no definitive proof that BPA harms humans. Research in adults has found that higher BPA levels in urine are associated with an increased risk of heart and liver disease, but the studies do not prove cause and effect, because they merely observed correlations, which could have been coincidental.

It would be unethical to experiment on people by giving them BPA, so researchers use rodents, and say the results are relevant to people. Dr. Daniel R. Doerge, who studies BPA at the National Center for Toxicological Research in Jefferson, Ark. (part of the F.D.A.), says, "Animal studies are the cornerstone of all our drug and environmental risk assessment for humans."

The animal studies have led the National Toxicology Program and the Food and Drug Administration to express "some concern about the potential effects of BPA on the brain, behavior and prostate gland of fetuses, infants and children." ("Some" concern is the midpoint on a five-level scale, ranging from "negligible" to "serious.") The National Toxicology Program also says, "The possibility that BPA may affect human development cannot be dismissed." The Environmental Protection Agency says, "There are questions about its potential impact, particularly on children's health and the environment."

The F.D.A. says that infants are "a potentially sensitive population for BPA" because their brains and endocrine systems are still developing, and their livers are less efficient than adults' at detoxifying and eliminating foreign substances. The drug agency has taken a seemingly paradoxical position, on the one hand saying there is no evidence of harm in humans, and on the other supporting industry actions to get BPA out of baby bottles and feeding

cups, and to find alternative liners for food and formula cans. Bottle-makers have found substitutes, but can producers say there is nothing like BPA. Only a few companies are offering BPA-free cans.

Reconciling Disparate Studies

Most of the evidence against BPA comes from studies that find harmful effects in rats and mice at low doses comparable to the levels to which people are exposed. Sometimes the results seem downright weird, indicating that low doses could be worse than higher ones. There is sharp disagreement among scientists about how to interpret some research. The disputes arise in part because scientists from different disciplines — endocrinologists versus toxicologists, academic researchers versus those at regulatory agencies — do research in different ways that can make findings hard to reconcile.

The biggest unanswered question is whether low doses — the kind to which most people are exposed — can have lasting, harmful effects in fetuses and young children. Dr. Birnbaum said it was crucial to find out for sure whether the low-dose effects in animals really occur. "We have hundreds of studies that show they do, and then some that don't," she said.

She and other scientists said studies by university labs tended to find low-dose effects, and studies by government regulatory agencies and industry tended not to find them. The split occurs in part because the studies are done differently. Universities, Dr. Birnbaum said, "have moved rapidly ahead with advances in science," while regulators have used "older methods." Some researchers consider the regulatory studies more reliable because they generally use much larger numbers of animals and adhere to formal guidelines called "good laboratory practices," but Dr. Birnbaum described those practices as "good record-keeping" and said, "That doesn't mean the right questions were being asked."

The low-dose studies are newer and have raised safety issues that need to be resolved, she said. Last year, a scientific group called the Endocrine Society issued a 34-page report expressing serious concerns about endocrine-disrupting compounds, including BPA, dioxins, PCBs, DDT, the plasticizers known as phthalates and DES.

The society has about 14,000 members from more than 100 countries, who work in medicine, biology, genetics, immunology, industry and other areas.

The report said there was strong evidence that endocrine disruptors could harm the reproductive system, causing malformations, infertility and cancer. It noted that the chemicals could affect all endocrine systems, and said there was mounting evidence for effects on the thyroid gland, brain, obesity and metabolism, and the body's ability to regulate insulin and glucose levels. It also said that fetuses exposed to chemicals in the womb could experience effects later in life, and pass those abnormalities to future generations.

Scientists call such effects "the fetal basis of adult disease," and say they probably result from epigenetic changes — meaning that the chemicals alter the functioning of genes, turning them on or off, but do not cause mutations, which are changes in the actual structure of the genes. Some scientists said that they had doubted that low doses could cause harm, but changed their minds after seeing the data.

"I was skeptical that there were effects that were repeatable," said Gail S. Prins, a professor of physiology at the University of Illinois at Chicago, and an author of the Endocrine Society's report. But in 2001 she was part of a panel that analyzed dozens of BPA studies for the National Toxicology Program. The panel had its own statistician reanalyze raw data from the studies to find out if the claims based on it were valid.

"I could see there was some consistent data," Dr. Prins said. "I started thinking, 'Hmm, maybe there could be something there.' It was still curious to me. This is not a regular toxicant. It's acting like a hormone, and hormones can act at extremely low doses. If you think the dose makes the poison, it doesn't make sense. But if you think about it as a hormone — and I'm an endocrinologist — it does make sense."

Her lab is one of the 10 that have received government grants under the economic Recovery Act to study BPA. She is analyzing its effects on the prostate in young mice and rats, and also in rats that have been implanted with human prostate cells. The work is being conducted under strict guidelines set by the National Institutes of Health, to make sure that the results of different groups will be reconcilable.

"This time N.I.H. said, 'You all have to do oral exposures, and we'll give you BPA from one source,' "Dr. Prins said. "We're all working with one batch. We all have to measure free and conjugated BPA levels in our model systems, and it has to be done in a certified lab so that our data will be more aligned. It does make a lot of sense to go about doing it this way, and it hasn't compromised anything I'm doing."

There is no practical way to do these studies except in rodents, she emphasized. "I can't look at early-life exposures and prostate risk in humans," Dr. Prins said. "I can't do it in my lifetime even if I start now. Likewise I can't take men who currently have prostate cancer and see what their BPA levels were when they were born."

Over the next few years, researchers hope to bring coherence to this confused and troubled field.

"This is a chemical we're all exposed to, and I think that makes it incumbent upon us to study it," Dr. Birnbaum said. "We really need to know what it might be doing, if anything."

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News Headline: EPA plan would close S. Carolina dump sites | U XX

Outlet Full Name: Washington Post - Online

News OCR Text: COLUMBIA, S.C. - About 20 power company dump sites, some of which have leaked poisonous coal residue into groundwater, face closure in South Carolina under a federal plan to protect the environment from electric utility waste. South Carolina's coal ash ponds include a pair in lower Richland County that are the source of increasing community complaints. Arsenic has seeped from the SCE&G ponds into groundwater and trickled into the nearby Wateree River just upstream from Congaree National Park.

The Environmental Protection Agency plan, to be discussed at a hearing Sept. 14 in Charlotte, faces vigorous opposition from power companies worried about the cost of closing coal waste ponds and its impact on their recycling efforts. The ponds collect coal waste left over from the generation of electricity.

But plan supporters say stronger federal rules would protect well water and rivers threatened by arsenic and other toxic materials contained in coal ash. Short-term exposure to arsenic can cause nausea, vomiting and skin disorders, while long-term exposure to some forms of arsenic has been tied to cancer.

The EPA proposal, which does not need congressional approval, was discussed at hearings this past week in Virginia and Colorado.

Environmentalists have voiced concerns about the S.C. Department of Health and Environmental Control's commitment to protect the area's groundwater, Catawba riverkeeper David Merryman said. 'The main comments were that time after time, DHEC has proven they are not willing to do anything about it,' he said. The safety of coal ash ponds came into focus in late 2008, when a catastrophic spill sent up to a billion gallons of contaminated water and sludge gushing across a Tennessee community. Since then, concerns have also intensified about leaks that affect groundwater over time.

Using government data, national conservation groups recently reported that more than 100 coal ash sites have caused environmental problems across the country. The United States has nearly 600 coal ash ponds, according to the EPA.

Experts say it could be a decade before the rules take effect - and how strictly the EPA would regulate coal ponds remains uncertain. The agency's proposal actually contains two plans, one of which would eventually be chosen.

The tougher proposal would classify coal ash wastes as hazardous, making them subject to federal enforcement. It would require the ponds to be cleaned out and liners installed within five years of taking effect. Ash pond owners also would be subject to cleaning up any contamination that was left, an EPA official told The State last week.

The other plan would have power companies clean out ponds and install liners. But it would not classify coal ash wastes as hazardous and the wastes would not be subject to federal enforcement.

The second proposal also would allow new ash ponds as long as they had liners. And states would decide whether to adopt rules governing the ponds. The EPA says this plan also could phase out coal ash ponds, but critics aren't so sure. They say states might not do anything since it wouldn't be required. 'It would phase out ponds if states decided to adopt rules and require that,' said Scott Slesinger, who tracks legislation for the Natural Resources Defense Council in Washington. 'But in many states, the coal industry and other big companies are expected to continue their ability to hold off the regulators.' - The State Return to Top

News Headline: Contaminated water widespread in state | U

Outlet Full Name: Tulsa World - Online

News OCR Text: Nearly 140 public water supplies in Oklahoma are operating in consistent violation of state and federal drinking water codes, pumping water that contains chemicals linked to cancer, infant illness, and damage to the liver and nervous system. Nine public water sites serving about 16,000 customers in central Oklahoma have orders to resolve environmental compliance issues, records from the state Department of Environmental Quality show. The department regulates 1,582 public water systems. "The public has a right to know about the quality of their drinking water," department spokeswoman Skylar McElheny said. "Some of these things might not hurt them for several decades, but they have the right to know." Consent orders are legal agreements between the state and the water system to resolve violations. If the terms of the order aren't followed, the water system can be fined up to \$10,000 per day depending on the violation. Disinfecting woes Among central Oklahoma counties, Stroud, Tecumseh, Chandler and Davenport consistently reported contaminant levels higher than allowed for disinfectant byproducts, records show. All are operating under consent orders to resolve the violations and notify the public. Michele Welsh of the department's Water Quality Division said trihalomethanes and haloacetic acids are formed when chemicals such as chlorine react with organic matter in the water. They are commonly referred to as disinfectant byproducts. The byproducts have been regulated since the late 1970s, with increased enforcement since the late 1990s, she said. Environmental Protection Agency reports say the byproducts are associated with higher instances of cancer in people who consume them over extended periods of time, particularly bladder, rectal and colon cancers. "Without disinfection you have acute diseases like dysentery and cholera," Welsh said. "There are immediate health effects without the disinfectant." The risk of developing cancer from the byproducts is low but not insignificant enough to keep them unregulated, she said. Nitrates from the land The town of Loyal, Logan County Rural Water District No. 2, the city of Okarche and Canadian County Rural Water District No. 1 are operating with state orders to lower the amount of nitrates in their water. Arthur Platt, an employee of the water district since 1986,

said he knew something had to change when customers started coming to the water district's office for bottled water. "The things in the water weren't good for you," he said. The district pumps water to areas in and around Cashion and Crescent. Platt said the water started testing high for nitrates in 2001. The compound occurs naturally and leaches into the water supply from manures and fertilizers. "They can hurt preborn babies, older people, and result in blue babies," Platt said. "So we had to start giving people bottled water if they wanted it." Blue-baby syndrome happens when a baby's blood is unable to carry enough oxygen. Excessive nitrates in drinking water can even kill infants. In 2001, the water supply to slightly fewer than 1,000 people in the area started testing higher than the allowed amount. The level hasn't fallen, likely because of farming. Platt said last week that the district tapped two new wells with low nitrate levels. Those are expected to be fully operational in the coming weeks. Platt said the county used stimulus funds to pay for the work. Higher fees for the district's customers are also likely. Dorothy Glazier, the treasurer for the town of Loyal in Kingfisher County, said money would be the end-all if the town has to dig a new well. Loyal's water has tested high for nitrates since 2007. Glazier said the town's response has been to post and mail warnings about the water and hope the nitrate levels naturally decline. "I've drank this water my whole life and all of my children have, too," she said. "We're a town of about 100; how would we pay to dig a new well? "And how could we know if that one wasn't high, too?" Original Print Headline: Tainted water abundant vbrown@opubco.com Return to Top

News Headline: Amid drilling for clean fuel, why does water go bad? ∣ ⊍ ⊠

Outlet Full Name: Buffalo News - Online

News OCR Text: No shortage of finger-pointing as residents blame gas boom for contamination of wells

Second of two parts

WYALUSING, Pa. -- Jacqueline Place knew something was wrong when the cows stopped drinking the water.

Jonna Phillips' warning came straight through the faucet, which in July started serving up water the color of chocolate milk -- water that could be lit with a lighter.

And for Jared McMicken, the gas meter in the basement issued the ultimate alert.

"The methane in our house was at explosive levels," said McMicken, who evacuated his wife and two young children from their modern home in the woods for two weeks this summer until it was safe to return.

Place, Phillips and McMicken all live in Bradford County, a breathtaking land of lakes, valleys and farms that also happens to be the epicenter of Pennsylvania's gas boom.

With freshly drilled gas wells all around, some local residents say that nothing but the drilling could have caused their water wells to go bad.

But the company that owns the gas wells, Chesapeake Energy, points out that it drilled more than a mile deep into the earth and thousands of feet from the properties with methane in the well water.

No matter who's right and who's wrong about how the water went bad in these country homes, one thing is certain:

Extracting the world's cleanest fossil fuel from the Marcellus Shale is making a bit of a mess.

Citing state data, the Pennsylvania Land Trust Association found 1,056 serious environmental violations tied to drilling in the shale between the start of 2008 and Aug. 20 of this year.

The violations -- most commonly improper erosion plans and faulty pollution prevention -- came at a rate of more than one a day. And 50 times, companies improperly sealed their gas wells, which may cause gas to migrate into groundwater.

The rash of violations disturbs even backers of the gas boom.

"There have been too many spills, too many leaks and too much gas migration," said John Hanger, secretary of Pennsylvania's Department of Environmental Protection.

Tap water 'on fire'

The gas migration -- the gas that somehow got into the well water in Wyalusing and elsewhere -- causes the most immediate concern about drilling in the Marcellus.

"We lit this water on fire, right here out of the sink," said Phillips, who, with her husband, Mike, is due to have a baby later this year. "That was scary. You don't want to be pregnant and drinking bad water."

Methane in the water supply is a hugely important concern in Pennsylvania, a state with no regulation of the private wells that provide drinking water for 3 million of its residents. Yet the methane problem also remains a bit of a mystery.

At least seven families in Bradford County have complained about gas in their well water, as have at least 14 in neighboring Susquehanna County and several more in the southwest corner of the state.

That's not many in a state where 20,000 water wells are drilled every year. And to date, there's no comprehensive review of how many of the complaints can be directly tied to Marcellus drilling.

That leaves people such as McMicken drawing conclusions from their own experiences.

"The wells -- that's the only change for miles around here," said McMicken, who lives next door to the Phillips family. "It's the only thing that you can point to."

McMicken's property and the others affected nearby are more than 2,500 feet from the nearest Chesapeake Energy wellhead.

"No one nearer to our activity ... has come forward with any concerns regarding their water quality," said Brian L. Grove, senior director of corporate development for Chesapeake Energy, which says that it is trucking in water for the affected families as a courtesy.

Pre-existing methane

However, both McMicken and Place said that horizontally drilled gas pipes run under their property.

Then again, the gas in the Marcellus is by no means the only gas underfoot in the region.

In fact, Chesapeake tested residential water wells within 2,500 feet of its gas well pad sites before drilling began -- and found that about a third already were tainted with methane.

"My perception is there have been few demonstrative direct impacts from Marcellus drilling," said Michael A. Arthur, a professor of geosciences and co-director of Pennsylvania State University's Marcellus Center for Outreach and Research. "It's pre-existing contamination. It's not Marcellus."

In other words, many Pennsylvanians, without knowing it, may be drinking from water wells that are like the Eternal Flame Falls in Orchard Park -- water that's combustible.

There's also evidence that drilling can gas up the groundwater.

A study conducted for Garfield County, Colo., and released last year found that natural fractures in the earth are so well-connected that gas seeped from near the "fracked" gas wells deep below ground into dozens of water wells.

And in Dimock, Pa. -- 30 miles east of Wyalusing -- 14 families are having water brought in because their wells were contaminated. The state earlier this year ordered Cabot Oil & Gas Corp. to pay a \$240,000 fine and plug three of its gas wells in Dimock, which were built with faulty casings, allowing gas to get into water wells.

"We drank that water," said Ron Carter, a Dimock resident who, with his wife, Jean, lives next door to a set of Cabot gas wells. "And we don't know what's in it."

Dimock resident Julie Sautner noticed the problem when fumes from the shower head nearly caused her 16-year-old daughter, Kelly, to pass out.

"It's insane," Sautner said of the gas drilling. "It's intrusive. We came here 13 years ago, and we were expecting peace and quiet. We never thought anything like this could happen."

Place, who says her well water remains tainted even though the gas company says it's just fine, termed the local gas drilling boom "devastating."

"And it's just starting," added Place, who lives about two miles west of the McMickens.

'Invasion of the earth'

The trouble in Bradford County does appear to be just one of many bad omens about gas drilling in Pennsylvania.

Most recently, mysterious gas bubbles popped up in the Susquehanna River near here.

And last week, the Pennsylvania Land Conservation Trust reported that 155 times since the start of 2008, gas companies in Pennsylvania improperly discharged industrial waste.

"The biggest problems are spills and leaks at the surface," said Hanger, the state environmental chief. "They tend to be relatively local. Sometimes there are small fish kills. We've never had a public system contaminated."

Spills can happen because the hydraulic fracturing, or fracking, process used to extract gas from the Marcellus Shale involves a voluminous mixture of water, sand and chemicals. After boring a hole deep into the earth, gas drillers drill horizontally -- and then use that mixture to blast open the shale, allowing the gas trapped inside to be captured.

The trouble is those chemicals. While they make up less than half a percent of the mix used in the fracking process, they include poisons such as xylene and trimethyl benzene.

Most of those fracking fluids remain buried deep underground, and there's a great dispute over what that means.

"You're drilling a well a mile below the surface," said Gary G. Lash, professor of geosciences at Fredonia State College and director of its Shale Research Institute. "It's very difficult to see how the frack fluids would get to the surface."

Yet others say it's only a matter of time before that happens.

"Fracking is an invasion of the earth. You're blowing rock apart with all kinds of toxic chemicals," said James F. Gennaro, a geologist and New York City Council member who has led the fight to prevent fracking in New York State. "If you don't prevent the migration of this water to the surface, there are going to be dire environmental consequences to people."

Waste goes skyward

Of even more concern are the open ponds that some companies use to store the fracking wastewater that's pumped to the surface and later shipped off-site for cleanup.

"Fracking ponds are like having an open hazardous waste well," said Theo Colborn, president of the Endocrine Disruption Exchange, a nonprofit group that studies the effects of chemicals on human health.

For that very reason, some companies shun the use of fracking ponds. Chesapeake, for example, recycles all its wastewater. Seneca Resources, owned by Buffalo's National Fuel Gas Co., stores its waste in tanks.

Overall, though, "improper construction of wastewater compoundment" occurred 162 times in Pennsylvania since the start of 2008, the study of environmental violations showed.

And outside of Wellsboro, the Tioga County seat, water leaked from a pond of fracking waste water mixed with fresh water this spring. Soon afterwards, the state Department of Agriculture quarantined 28 cows that may have drank water from the leak.

"We took this precaution in order to protect the public from consuming any of this potentially contaminated product," State Agriculture Commissioner Russell C. Redding said.

Most ominously of all, a June blowout at a well in Clearfield, in central Pennsylvania, sent 35,000 gallons of gas and fracking waste shooting into the sky. The state fined the well's operators -- including EOG Resources, formerly Enron -- \$400,000 for ignoring proper safety procedures.

EPA plans hearings

Hanger, the state environmental chief, acknowledged that there's a vast range in the quality of Pennsylvania's gas operations, and the numbers prove it.

Chesapeake, the largest gas driller in the state, had one of the lowest rates of violations per well: 0.8.

Seneca Resources, owned by Buffalo's National Fuel Gas Corp., was close behind at 0.9.

In contrast, JW Operating Co. has 29 violations per well. And East Resources, creator of the leaking fracking pond near Wellsboro, has four per well.

"I certainly have a concern that any violation is going to taint all of us," said Matthew D. Cabell, president of Seneca Resources. "I think the process is very safe and the environmental threat is very minimal."

Research to prove that point, though, is incomplete.

The U.S. Environmental Protection Agency is in the midst of a review of the hydrofracking process, and will hold public meetings on the issue in Binghamton next week.

Meanwhile, fracking is on hold in New York State's share of the shale at least until the completion of a state Department of Environmental Conservation report later this year.

To McMicken, whose family now lives in a beautiful home with a huge water tank out front, New York's delay is a good thing.

"I used to think you weren't very smart in New York, waiting like you did," he said. "But I think you're the smart ones now."

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News OCR Text: Feds: Don't drink contaminated water in Wyo. town

The federal government is telling people not to drink the water from 40 wells in a central Wyoming town, including 17 wells contaminated by hydrocarbons.

The U.S. Environmental Protection Agency on Tuesday released its findings from testing 19 wells for residential drinking water plus four wells for livestock and irrigation in the Pavillion area.

Seventeen drinking water wells have low levels of hydrocarbons possibly associated with oil and gas drilling from the 1960s through the present day.

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